

## **Attachment A - Sampling and Analysis Program Dunkin & Bush Property**

**October 21, 2015**

This document presents the sampling and analysis program for the Dunkin & Bush property adjacent to the Burgard Industrial Park (BIP) in Portland, Oregon (Property) (Figure A-1 and Figure A-2). This document is an attachment to the overall *Basin 18 Supplemental Source Control Evaluation Sampling and Analysis Plan* (Basin 18 SSCE SAP). The Basin 18 SSCE SAP describes the

- Overall objectives of the Basin 18 SSCE;
- Basin 18 chemicals of interest (COIs);
- Specific sampling and analysis methods for soil, catch basin/conveyance pipe solids, and storm water; and
- Sampling results reporting.

This attachment describes the specific sampling locations and media for the Property.

### **Pathway Analysis**

The only potential pathway identified from the Property to the Willamette River is the storm water pathway. The Property is located about 1400 feet from the Willamette River. Thus, direct release of erodible soil, groundwater, and overwater activities are not material pathways for migration of chemicals of interest (COIs) from the Property to the river. Groundwater sampling and analysis previously performed along the Willamette River noted low concentrations of COIs and provides another line of evidence that groundwater migration from the relatively small Dunkin & Bush Property is not a material COI pathway.

Storm water runoff from the Property consists of:

- Runoff from the office roof and small landscaped areas which is captured by two catch basins in front of the office (CB1 and CB2); and
- Runoff from other building roofs and the unpaved yard which is captured in CB3.

Storm water runoff captured in these catch basins is conveyed to OF18 located about 1400 feet northwest of the Property. A manhole connecting the storm water conveyance pipes is noted on North Sever Road in historical drawings but is not evident on the current North Sever Road surface. Figure A-2 shows the general layout of the storm water collection and conveyance system.

### **Supplemental SCE Sampling Tasks**

The following Basin 18 supplemental SCE sampling tasks will be performed to assess the potential for storm water from the Property to be a material pathway for COIs to migrate to the Willamette River:

- Conveyance pipe and catch basin cleanout solids sampling;
- Video survey of accessible storm water conveyance pipes;

- Geophysical survey to assess storm water infrastructure;
- Roof drain storm water sampling; and
- Storm water pathway erodible soil sampling.

Each of these is described below. Figure A-2 shows the proposed SCE sample locations.

The solids cleanout (and sampling), video survey, and geophysical survey will be performed prior to initiating the storm water sampling tasks. As noted below, the results of the initial tasks may note more representative storm water sampling locations.

### ***Conveyance Pipe and Catch Basin Cleanout Solids Sampling***

As described below, accumulated sediments will be removed from the three catch basins on the Property and the conveyance pipes entering and exiting CB3. A representative sample of the solids removed from the catch basins and pipe will be collected.

### ***Video Survey***

A video survey of the conveyance pipes entering and exiting CB3 will be performed to assess the storm water system infrastructure in the area around CB3 including the presence and location of the manhole historically present in North Sever Road. The video survey will be performed after the pipe and catch basin solids are removed. An electrical tracer will be used during the survey to further assess the lateral location of the pipes and encountered storm water system infrastructure features. The video survey will be extended as far as practical in both directions from CB3 and will be memorialized in a recorded video.

### ***Geophysical Survey***

A geophysical survey will be performed in North Sever Road to attempt to locate the historical manhole. Geophysical survey methods will include magnetometer, electromagnetic (EM) survey, and ground penetrating radar (GPR), as needed. If a metal pipe is accessible in CB3, standard utility locating equipment using an induced current in the pipe will also be considered.

### ***Roof Drain Storm Water Sampling***

A roof drain storm water sample will be collected during two rainfall events. The roof runoff water samples will be collected from CB2 where the roof drains enter the catch basin. The Basin 18 SSCE SAP describes the criteria for the two storm water sampling rainfall events.

### ***Storm Water Pathway Erodible Soil Sampling***

Three surface soil samples will be collected around (about 3 feet away from) CB3 to assess whether erodible soil around the catch basin is a source of COIs to storm water runoff captured in CB3. Given the lack of a representative sample point for storm water entering the catch basin, the surface soil samples will be considered the primary line of evidence regarding the potential for CB3 storm water to be a material COI migration pathway. The soil samples will be collected from the upper 3-inches and spaced equally around the catch basin.

Notwithstanding the above, if the solids cleanout (and sampling), video survey, and geophysical survey work notes a sampling location where representative storm water samples can be collected (e.g., an inlet to the manhole in North Sever Road), collection and analysis of the erodible soil samples may not be necessary. In this event, DEQ will be contacted and the Dunkin & Bush SCE sampling program may be modified.

## Sample Laboratory Analysis

The catch basin/conveyance pipe cleanout solids, the erodible soil sample, and the roof drain storm water samples will be analyzed for the Basin 18 COIs. As noted in the Basin 18 SSCE SAP, the Basin 18 COIs are:

- PCB aroclors;
- Dioxins;
- Butyltins;
- Aluminum, antimony, arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, silver, and zinc;
- Polycyclic aromatic hydrocarbons (PAHs);
- Total suspended solids (TSS) (water samples only); and
- Total organic carbon (TOC).

The Basin 18 SSCE SAP presents the specific analytical methods and associated detection limits for the COI analyses.

Additional analysis of the conveyance pipe and catch basin solids sample may be necessary for waste characterization.

## Other Source Control Tasks

The storm water conveyance pipes and catch basins will be cleaned (e.g., jetted while recovering the jetted water) to reduce future potential migration of Basin 18 COIs from the Property. As described above, a sample of the solids removed from the pipe and catch basins will be collected.

### Attachments:

- Figure A-1      Site Plan, Burgard Industrial Park  
Figure A-2      Proposed Sample Locations - Dunkin & Bush Property

## Figures

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Base photograph April 2015

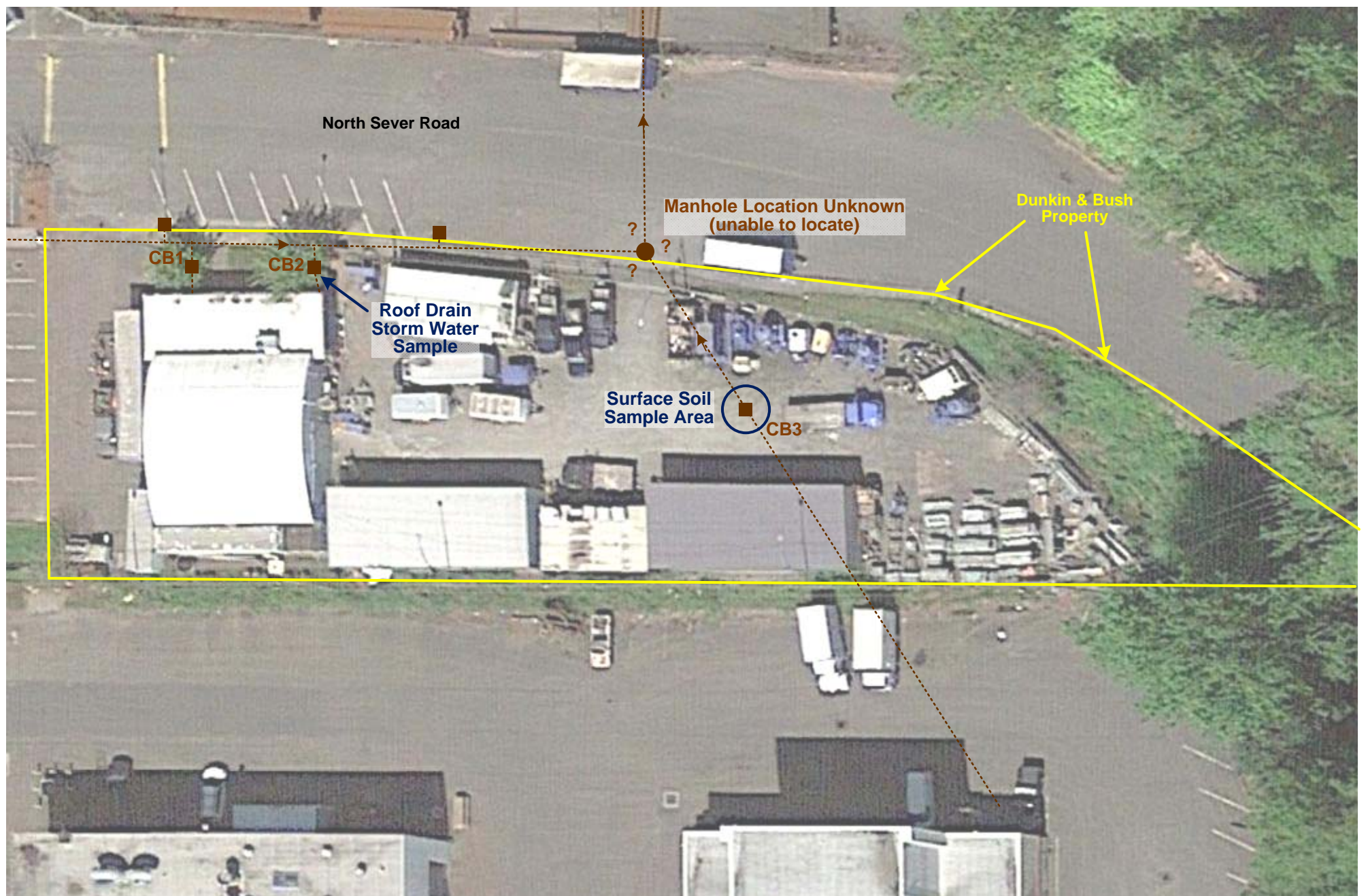


Approximate Scale  
400 Feet

**Figure A-1**  
Site Plan  
Burgard Industrial Park  
Portland, Oregon

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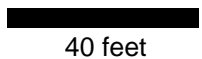




Base photograph April 2015



Approximate Scale



Catch Basin



Manhole

**Figure A-2**  
 Proposed Sample Locations - Dunkin & Bush Property  
 Burgard Industrial Park  
 Portland, OR

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